

# 國立高雄師範大學九十九學年度碩士班招生考試試題

系所別：科技管理研究所

(以鉛筆作答者不予計分)

科 目：管理學 (全一頁)

- 一、台灣自行車業從民國 70 年代達到成熟高峰，旋即走下坡長達十數年。然自民國 95 年起台灣漸漸吹起單車風，昔日被視為傳統產業之自行車製造業再度吃香，甚至 97 年年底 (98 年春節) 有廠商發放高達 23 個月的年終獎金。然意外地，98 年下半年市場卻傳出自行車業業績明顯下滑之消息，至 99 年初更加嚴重。請回答下列問題：
  - (一) 請根據您熟悉之管理理論解釋此種市場變動之趨勢。(10%)
  - (二) 請為台灣自行車市場作一妥適之區隔。(10%)
  - (三) 根據管理學學理，目前自行車廠商有哪些克服業績下滑之策略？(10%)
  
- 二、行政院宣布，99 年 12 月 25 日台灣將正式設立五都：台北、新北、大台中、大台南與大高雄。其中台北、新北 (原為台北縣) 本來就是獨立之行政體；而大台中、大台南則各為兩個省轄縣市之同級整併，困難度也不高。因此，五都中以大高雄 (包含原直轄高雄市、原省轄高雄縣) 之整併最為複雜。請依據您所熟悉之組織行為與/或組織理論，預測大高雄整併之後將發生什麼變化。建議的內容包括 (但不限於此) 組織文化、控制幅度、正式化程度等。(20%)
  
- 三、請說明權力 (power) 來源的種類為何？(10%)
  
- 四、請畫圖說明矩陣式 (matrix) 組織結構及優缺點為何？(10%)
  
- 五、請說明馬斯洛 (Abraham Maslow) 的需求層次理論？受人批評之地方為何？(10%)
  
- 六、請以統一集團為例，說明如何進行 (a) 水平整合，垂直整合，錐形整合 (b) 7-11 超商在垂直通路系統 (vertical channel system) 是屬於哪一種類型？(20%)

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系所別：各學系（英語學系除外）

科目：英文（第 1 頁，共 4 頁）

## I. Vocabulary: choose the best word to complete each sentence. (26%)

1. Every camera we sell comes with a two-year \_\_\_\_\_.  
(A) safety (B) confirmation (C) guarantee (D) conservation
2. The beam that is \_\_\_\_\_ by a laser differs in several ways from the light that comes from a flash-light.  
(A) transported (B) emitted (C) motivated (D) translated
3. The most important \_\_\_\_\_ assessment in this contest is originality of design.  
(A) threshold (B) partition (C) warrant (D) criterion
4. A good education is an \_\_\_\_\_ you can fall back on for the rest of your life.  
(A) asset (B) ethic (C) inventory (D) obligation
5. Certain species disappeared or become \_\_\_\_\_ as new forms arose that were better adapted to the earth's changing environment.  
(A) feeble (B) extinct (C) massive (D) extinguished
6. Please do not be \_\_\_\_\_ by his offensive remarks since he is merely trying to attract attention.  
(A) distracted (B) disregarded (C) irritated (D) intervened
7. I found it difficult to \_\_\_\_\_ my career ambitions with the need to bring up my children.  
(A) consolidate (B) amend (C) reconcile (D) intensify
8. Dogs are often praised for their \_\_\_\_\_; they almost never abandon their masters.  
(A) faith (B) loyalty (C) trust (D) truthfulness
9. We find that some birds \_\_\_\_\_ twice a year between hot and cold countries.  
(A) migrate (B) emigrate (C) transfer (D) commute
10. Parents have a legal \_\_\_\_\_ to ensure that their children are provided with efficient education suitable to their age.  
(A) impulse (B) influence (C) obligation (D) sympathy
11. If this kind of fish becomes \_\_\_\_\_, future generations may never taste it at all.  
(A) scarce (B) minimum (C) short (D) seldom
12. He is the only person who can \_\_\_\_\_ in this case, because other witnesses were killed mysteriously.  
(A) accuse (B) charge (C) rectify (D) testify
13. The managing director took the \_\_\_\_\_ for the accident, although it was not really his fault.  
(A) guilt (B) charge (C) accusation (D) blame

## II. Grammar: choose the best answer to complete the sentence. (24%)

14. So far only two other of our neighboring planets \_\_\_\_\_ the solar system have been visited by unmanned spacecraft.  
(A) by (B) that they are in (C) in (D) they are by
15. Many tropical orchids grow \_\_\_\_\_ branches of trees and have aerial roots that absorb water from the moist air around them.  
(A) of the (B) the (C) they are in the (D) in the
16. \_\_\_\_\_ eighteenth century, people began to realize that certain chemicals are affected and changed by light.  
(A) By the (B) The (C) It was the (D) That in the
17. In addition to their homes, the Pomo Indians of California built dance houses \_\_\_\_\_ religious ceremonies.  
(A) of (B) for (C) in which (D) were for

（背面有題）

系所別：各學系 (英語學系除外)

科目：英文 (第 2 頁，共 4 頁)

18. Paprika is \_\_\_\_ red or cayenne pepper, and it has a sweeter taste.  
(A) least biting (B) less biting than (C) lesser biting than (D) less as
19. A neuron cell can not only receive messages from sense organs, but it can also \_\_\_\_\_.  
(A) to transmit messages throughout the body (B) by transmitting messages throughout the body  
(C) transmit messages throughout the body (D) a transmitter of messages throughout the body
20. \_\_\_\_ does not circle around the earth was proven by Galileo.  
(A) Since the rest of the universe (B) As the rest of the universe  
(C) The rest of the universe (D) That the rest of the universe
21. Ansel Adams was a landscape photographer \_\_\_\_ photographs of the western United States show nature on a grand scale.  
(A) whose (B) of his (C) of whom (D) his
22. The Gray Wolf, a species reintroduced into \_\_\_\_\_ in Yellowstone National Park, has begun to breed naturally there.  
(A) their native habitat (B) it's native habitat (C) its native habitat (D) native habitat
23. A computer is usually chosen because of its simplicity of operation and ease of maintenance \_\_\_\_ its capacity to store information.  
(A) the same as (B) the same (C) as well as (D) as well
24. One of the most effective vegetable protein substitutes is the soybean \_\_\_\_\_ used to manufacture imitation meat products.  
(A) which can be (B) it can be (C) who can be (D) can be
25. Upon hatching, \_\_\_\_\_.  
(A) young ducks know how to swim (B) swimming is known by young ducks (C) the knowledge of swimming is in young ducks (D) how to swim is known in young ducks

### III. Cloze A (16%)

Historical Revisionism is the term used to describe a re-examination of historical data. Revisionists examine and update so-called historical “facts,” arguing that as societies 26, so do their histories. These historians believe that revisionism 27 imbalances in historical narratives that have ignored or 28 certain groups in societies. They update histories by re-examining facts and including new information. Revisionist historians argue that 29 the scientific methodology of historiography, history is biased. Like any other story of the past, history is a narrative, and narratives 30 the elite within societies and help them maintain power. When these power structures change, revisionism becomes necessary in order to correct imbalances 31 through skewed historical writing. This idea is best understood when 32 by an example such as the notion that Christopher Columbus discovered America. Did he really discover America? If so, what about the many 33 peoples that had populated both American continents for thousands of years? The word “discovered” actually displays a Eurocentric bias. It implies that a part of the world only becomes “real” when Europeans know about it. Thanks to historical revisionism, we can now qualify this notion, and consequently, in modern historical texts, quotation marks are added when the word “discovered” is used.

26. (A) resolve (B) resolute (C) evade (D) evolve  
27. (A) addresses (B) concerns (C) argues (D) commemorate  
28. (A) disembark (B) discontinue (C) discounted (D) disembarass  
29. (A) despite (B) although (C) due to (D) thanks to  
30. (A) favor (B) discriminate (C) critique (D) downbeat  
31. (A) perpetrated (B) accused (C) committed (D) portrayed  
32. (A) exemplified (B) illustrated (C) described (D) discerned  
33. (A) foreign (B) distant (C) overseas (D) indigenous

系所別：各學系 (英語學系除外)

科目：英文 (第 3 頁，共 4 頁)

#### IV. Cloze B (10%)

The value of a professional sports team for a city's local economy is 34. The benefits begin with the construction of the stadium itself, providing thousands of local construction jobs. Once regular season play begins, an army of local workers is required to man the stadium 35 for everything from concessions and ticket sales to security and administration. The economic benefits 36 throughout the district of the stadium as fans 37 the area from far and wide. These fans support local parking decks, restaurants, bars, shops and often hotel facilities. This 38 the prosperity of local businesses and provides a general boost to the overall property value.

34. (A) indecent            (B) indeciduous        (C) undeniable        (D) unabridged  
35. (A) faculty            (B) equipments        (C) structures        (D) facilities  
36. (A) exempt            (B) enlarge            (C) expand            (D) extend  
37. (A) pour into        (B) run into            (C) occur to            (D) come into  
38. (A) contrives to     (B) attributes to        (C) composes to        (D) contributes to

#### V. Reading Comprehension A (6%)

Body language imparts meaning without the use of words. It is a type of non-verbal communication. There are certain recognized distinctions between types of body language: voluntary/involuntary and universal/cultural. The first distinction is often fussy. For instance, a smile can be voluntary or involuntary. However, by the second distinction, smiles are universal. They are interpreted the same across all cultures. Nodding and headshaking, however, are cultural. In Turkey, the former is replaced by raising the eyebrows. It is thought that body language has its roots in animal communication. Indeed, great apes raised in captivity are quite proficient at reading human body language.

39. The word "They" in the passage refers to \_\_\_\_\_  
(A) distinctions    (B) cultures    (C) smiles    (D) people who smile  
40. What can be inferred from the passage about nodding?  
(A) It will be understood everywhere.            (B) It will not be understood in Turkey.  
(C) It will not be understood by an ape.            (D) It will be understood if it is voluntary.  
41. The word "fussy" in the passage is closest in meaning to \_\_\_\_\_  
(A) unclear    (B) hairy    (C) solid    (D) inverted

#### VI. Reading Comprehension B (8%)

Have you heard of the term "hunters and gatherers"? This term is often used to describe Native American people in their early days. Hunters are those who kill animals for food or to use their skins for different purposes. Gatherers are people who gather fruits and vegetables for food. In northern areas of North America, most Native American people were hunters. This is because few fruits or vegetables were available in these areas. For that reason, people relied on hunting for food and materials for daily life.

The most obvious use of hunted animals is for food. Native American hunters, however, used the animals they hunted for many other purposes. In particular, the skin from deer and buffalo had many uses. For example, buffalo skin was used to cover their houses, called "tepees." The skin formed the coverings of these cone-shaped houses. Skins were also used to make clothing such as robes. Some Native Americans even used skins to make boats. Another use of animal skins was the making of various containers. For example, large and small containers were made to hold foods.

Working with animal skins was no easy task. Animal skins had to be treated before they were used. That is, they had to be prepared so that they would not fall apart or smell badly. Some methods of preparation could also leave the skins very soft. However, the technique to soften the skin could take many hours. This was important for making clothing such as robes and shoes. While men mostly did the hunting, women did much of the preparation.

(背面有題)

第 3 頁，共 4 頁

系所別：各學系 (英語學系除外)

科目：英文 (第 4 頁，共 4 頁)

42. According to the passage, why were most Native American people hunters?  
(A) They used animal skins for clothes. (B) They had excellent hunting skills.  
(C) There were many large animals in the area. (D) There were not many fruits and vegetables in the area.
43. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage?  
Incorrect choices change the meaning in important ways or leave out essential information.  
(A) They needed to be strong and well made. (B) People had to condition the skins for strength and freshness.  
(C) They needed to be cleaned and prepared. (D) People had to be ready to be clean and strong.
44. The phrasal verb “relied on” in paragraph 1 is closest in meaning to \_\_\_\_\_.  
(A) lay down (B) wanted (C) consumed (D) mostly did
45. The word “methods” in paragraph 3 could best be replaced by which of the following?  
(A) Ideas (B) Ways (C) Periods (D) Centuries

## VII. Reading Comprehension C (10%)

During the nineteenth century, women in the United States organized and participated in a large number of reform movements, including movements to reorganize the prison system, improve education, ban the sale of alcohol, grant rights to people who were denied them, and, most importantly, free slaves. Some women saw similarities in the social status of women and slaves. Women like Elizabeth Cady Stanton and Lucy Stone were not only feminists who fought for the rights of women but also fervent abolitionists who fought to do away with slavery. These brave people were social leaders who supported the rights of both women and blacks. They were fighting against a belief that voting should be tied to land ownership, and because land was owned by men, and in some cases by their widows, only those who held the greatest stake in government, that is the male landowner, were considered worthy of the vote. Women did not conform to the requirements.

A number of male abolitionists, including William Lloyd Garrison and Wendell Phillips, also supported the rights of women to speak and to participate equally with men in antislavery activities. Probably more than any other movement, abolitionism offered women a previously denied entry into politics. They became involved primarily in order to better their living conditions and improve the conditions of others. However, they gained the respect of those they convinced and also earned the right to be considered equal citizens. When the civil war between the North and the South ended in 1865, the Fourteenth and Fifteenth Amendments to the Constitution adopted in 1868 and 1870 granted citizenship and suffrage to blacks but not to women. Discouraged but resolved, feminists worked tirelessly to influence more and more women to demand the right to vote. In 1869, the Wyoming Territory had yielded to demands by feminists, but the states on the East Coast resisted more stubbornly than before. A woman’s suffrage bill had been presented to every Congress since 1878, but it continually failed to pass until 1920, when the Nineteenth Amendment granted women the right to vote.

46. With what topic is the passage primarily concerned?  
(A) The Wyoming Territory (B) The Fourteenth and Fifteenth Amendments  
(C) Abolitionists (D) Women’s suffrage
47. The word “ban” in paragraph 1 most nearly means to \_\_\_\_\_.  
(A) encourage (B) publish (C) prohibit (D) limit
48. What had occurred shortly after the Civil War?  
(A) The Wyoming Territory was admitted to the Union. (B) A women’s suffrage bill was introduced in Congress.  
(C) The eastern states resisted the end of the war. (D) Black people were granted the right to vote.
49. The word “suffrage” in paragraph 3 could best be replaced by which of the following?  
(A) the right to vote (B) citizenship (C) freedom from bondage (D) pain
50. What does the Nineteenth Amendment guarantee?  
(A) Voting rights for blacks (B) Voting rights for women  
(C) Citizenship for blacks (D) Citizenship for women

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系所別：科技管理研究所

(以鉛筆作答者不予計分)

科 目：科技管理 (含個案分析) (全一頁)

一、名詞解釋：

(一) Technological Strategy (5%)

(二) Technological Change (5%)

二、請說明：科學 (science)、科技 (technology)、技術 (technique) 這三個名詞的定義各為何？它們之間有何差異？(10%)

三、專利有「發明」、「實用新型」及「新式樣」三種，請問各定義為何？有何差異？(10%)

四、請舉出 4 個不同產業界「科技創新」的例子。(20%)

五、研究發展策略聯盟

(一) 請說明何謂「研究發展策略聯盟」？(5%)

(二) 請列舉五項組織間進行「研究發展策略聯盟」的理由為何？(10%)

(三) 並請進一步說明這五項理由。(10%)

六、有利於創新的組織文化

(一) 創新過程往往不一定會順利且成功，甚至常常經歷失敗。組織領導人應如何看待這件事，才能形塑有利於創新的組織文化？(15%)

(二) 如果有一位研發副總對高階經理人 (例如：總經理) 說：「儘管投資不少資源進行這項研發計畫，最後並沒有獲得成功；但是，對我們的未來發展幫助很大。」請從「吸收能力 (absorptive capacity)」的角度來闡述這位研發副總想要表達的意涵？(10%)

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系所別：各系所（國文學系、經學研究所除外）（以鉛筆作答者不予計分）

科目：國文（第1頁，共5頁）

## 一、閱讀測驗：（40%）

（一）

勿慕富與貴，勿憂貧與賤；自問道何如，貴賤安足云？  
聞毀勿戚戚，聞譽勿欣欣；自顧行何如，毀譽安足論？  
無以意傲物，以遠辱於人。無以色求是，以自重其身。  
遊與邪分歧，居與正為鄰；於中有取捨，此外無疏親。  
修外以及內，靜養和與真；養內不遺外，動率義與仁。  
千里始足下，高山起微塵；吾道亦如此，行之貴日新。  
不敢規他人，聊自書諸紳；終身且自勗，身沒貽後昆。  
後昆苟反是，非我之子孫。（白居易〈續座右銘〉）

1. 「不敢規他人，聊自書諸紳。」所表現的態度是什麼？  
(A) 好學 (B) 謙虛 (C) 自卑 (D) 孤高
2. 依上文的旨意，下列哪一項是正確的？  
(A) 重個人修養，亦顧及他人批評 (B) 重進德修業，也要自強不息  
(C) 與人交往，需顧及關係遠近 (D) 謀事求職，偶低聲下氣無妨
3. 下列哪一組文句是對句？  
(A) 自問道何如，貴賤安足云 (B) 於中有取捨，此外無疏親  
(C) 無以意傲物，以遠辱於人 (D) 終身且自勗，身沒貽後昆
4. 「千里始足下，高山起微塵。」這句話意同於  
(A) 路遙知馬力 (B) 滴水可穿石  
(C) 欲窮千里目 (D) 行遠必自邇
5. 下列哪兩句的旨意最相近？  
(A) 無道人之短，無說己之長--勿慕富與貴，勿憂貧與賤  
(B) 隱心而後動，謗議庸何傷--自顧行何如，毀譽安足論  
(C) 無使名過實，守愚聖所臧--修外以及內，靜養和與真  
(D) 行之苟有恆，久久自芬芳--吾道亦如此，行之貴日新

（背面有題）

系所別：各系所（國文學系、經學研究所除外）（以鉛筆作答者不予計分）

科 目：國文（第 2 頁，共 5 頁）

（二）

正面思考 增生好膽固醇

以往文獻證實，壓力會造成人體內的膽固醇增加，尤其是俗稱壞膽固醇的低密度膽固醇成長最多。由於該類膽固醇會加速血管的硬化，導致栓塞發生，阻礙血液流通，無形中也大幅提高心臟病與中風發生的機會。

但在美國心理學會年會的報告指出，若身處壓力時能保持冷靜，並採取正向、積極的態度因應，一旦處理方法得當，有「血管清道夫」之稱的好膽固醇，亦即高密度膽固醇同時會增加許多。

夏威夷大學心理學家 Yancura 博士與奧勒岡大學 Aldwin 博士合作規劃。針對 716 位平均年齡為 65 歲的男性進行調查，目的在瞭解敵意、壓力、因應方式與個案本身的膽固醇指數間的相互關係。

分析結果發現，個案若屬於高敵意時，除使用的因應技巧普遍較不健康，主觀的壓力感受較強烈外，血液中的好膽固醇量也較低。但個案傾向低敵意時，往往採用較多的健康因應技巧，而好膽固醇也會變多，對心血管功能產生保護作用。

研究者表示，詳細原因仍需探討，可能的解釋是當一個人能處變不驚，且有效控制自身的敵意時，就可以抑制壓力荷爾蒙的分泌，進而影響膽固醇的增減。

有鑑於此，可見壓力管理的重要性。面對壓力時難免會心煩意亂，但若能儘快穩定情緒，勇於接受現實，並努力想辦法改善，甚至一時無法解決時，也嘗試以樂觀態度看待，相信如此對身心健康都好。

6. 根據上文，什麼因素可能會影響到「膽固醇的增減」？

- (A) 血管的硬化                      (B) 栓塞的發生  
(C) 荷爾蒙的分泌                  (D) 心臟病的發作

7. 根據上文，有關膽固醇的敘述，何者正確？

- (A) 壓力會增加高密度膽固醇  
(B) 膽固醇有好壞之分  
(C) 中風的發生無法證實與膽固醇有關  
(D) 「血管清道夫」是有效防止血栓發生的新藥

8. 上文所提到研究的「調查目的」，何者正確？

- (A) 了解血液流通的狀況，以促進人類健康  
(B) 嘗試要樂觀看待所有事物，並幫助 65 歲以上的男性  
(C) 教導人要處變不驚，能因應壓力  
(D) 了解個人對事的處理態度與膽固醇指數的關係



系所別：各系所（國文學系、經學研究所除外）（以鉛筆作答者不予計分）

科 目：國文（第 3 頁，共 5 頁）

9. 根據上文，下列哪一個選項存在「必然」關係？

- (A)「男性」與「壓力」            (B)「分析」與「敵意」  
(C)「樂觀」與「健康」            (D)「血液」與「栓塞」

10. 下列哪一句話，可視為本文的「最佳結論」？

- (A) 壓力管理的重要性            (B) 博士們的合作規劃  
(C) 情緒應該適度發洩            (D) 膽固醇加速血管硬化

(三) 閱讀下文並作答：

寒食後雨，余曰：「此雨為西湖洗紅，當急與桃花作別，勿滯也。」午霽，偕諸友，至第三橋。落花積地寸餘，遊人少，翻以為快。忽騎者白紈而過，光晃衣，鮮麗倍常，諸友白其內者皆去表。少倦，臥地上飲，以面受花，多者浮，少者歌，以為樂。  
袁宏道〈雨後遊六橋記〉

11. 本文所描述的季節應該是：

- (A) 春天    (B) 夏天    (C) 秋天    (D) 冬天

12. 「此雨為西湖洗紅」，是指：

- (A) 雨水替西湖洗去肅殺之氣            (B) 雨水替西湖洗去汙穢  
(C) 雨水為西湖帶來花朵            (D) 雨水打落花朵

13. 「遊人少，翻以為快」，是指：

- (A) 遊人少，在落花上翻滾為樂            (B) 遊人少，翻滾比走路快  
(C) 遊人少，反而覺得快樂            (D) 遊人少，反而覺得掃興

14. 「忽騎者白紈而過」，是指：

- (A) 形容時間過得很慢            (B) 形容時光流逝很快，如白駒過隙  
(C) 形容陽光十分耀眼            (D) 騎者穿白綢衣而過

15. 「諸友白其內者皆去表」，是指：

- (A) 朋友們都真誠相見            (B) 朋友們有穿白色內衣的都脫去外衣  
(C) 朋友們都光著身子            (D) 朋友們都不在乎外表

（背面有題）

系所別：各系所（國文學系、經學研究所除外）（以鉛筆作答者不予計分）

科 目：國文（第 4 頁，共 5 頁）

（四）閱讀下文並作答：

故鄉海邊  
儲存核爆的巨球代替燈塔  
封鎖港口  
鎮壓人心

荒廢的瓊麻山  
像被曬焦的父親的肩膀  
支撐輸電線  
延伸到島嶼其他地方

夜暗中點亮燈光  
燃燒的鎢絲  
有故鄉的痛楚  
在封閉的心裡吶喊

落山風嗚咽  
聲音消失在環繞的海  
一把月琴  
思想起

李敏勇〈故鄉—一九八四〉

16. 本篇詩文所指的故鄉在哪裡？

- (A) 金山 (B) 澎湖 (C) 恆春 (D) 台北

17. 儲存核爆的「巨球」代替燈塔，是指：

- (A) 核電廠 (B) 巨大氣球 (C) 氣象接收站 (D) 雷達觀測站

18. 「封鎖港口鎮壓人心」，是指：

- (A) 人民因演習而封鎖 (B) 港口因戒嚴被封鎖  
(C) 人民因有此公害，造成心中的陰影 (D) 港口因核電廠被封鎖

19. 「荒廢的瓊麻山，像被曬焦的父親的肩膀，支撐輸電線」，是指：

- (A) 形容台灣海邊天氣的炎熱 (B) 形容父輩工作的艱苦  
(C) 嘲笑瓊麻是過時的工業 (D) 形容台灣只要核能犧牲自然

系所別：各系所（國文學系、經學研究所除外）（以鉛筆作答者不予計分）

科 目：國文（第 5 頁，共 5 頁）

20. 「燃燒的鎢絲，有故鄉的痛楚」，是因為：

- (A) 台灣不重視核能發電廠                      (B) 台灣以經濟開發至上，忽視核能的風險  
(C) 台灣不能沒有發電廠                      (D) 以上皆非。

二、作文題：(60%)

題目：「師法自然」

自然孕育萬物，人不能離開自然，人若能與自然和諧相處，取法自然，以自然為師，一定可以得到很多啓迪人生的道理，請以此為題，寫出自己取法自然的生活經驗。

# 國立高雄師範大學九十九學年度碩士班招生考試試題

系所別：科技管理研究所

(以鉛筆作答者不予計分)

科 目：微積分 (第 1 頁，共 2 頁)

一、寫出  $\frac{|x|}{3x}$  的定義域與值域。(8%)

二、請使用介值定理證明方程式  $\frac{1}{14}(x+4)(x+1)(x-1)(x-3)+0.5=0$  有 4 個根介於 -5 與 5 之間。(8%)

三、 $y = |x-3| + |x+8|$ ，求  $\frac{dy}{dx}$ 。(8%)

四、求  $\int_2^4 \frac{e^{8/x}}{2x^2} dx$ 。(8%)

五、求  $\int \frac{x^2+2x+1}{\sqrt{x}} dx$ 。(8%)

六、 $f(x) = 3 - |x|$ ,  $-1 \leq x \leq 2$ ，(a) 畫出函數  $f(x)$  的圖形 (b) 使用定積分求  $f(x)$  在  $[-1, 2]$  間所圍成之區域面積。(10%)

七、若函數  $f(x) = \frac{\alpha\sqrt{x^2+5^2} - \beta}{x-2}$ ， $\lim_{x \rightarrow \infty} f(x) = 1$ ， $\lim_{x \rightarrow 2} f(x)$  存在，請回答下列問題：  
(a) 求常數  $\alpha, \beta$  之值。(4%)  
(b) 求  $\lim_{x \rightarrow 2} f(x)$  之值。(4%)

(背面有題)

系所別：科技管理研究所

(以鉛筆作答者不予計分)

科 目：微積分 (第 2 頁, 共 2 頁)

八、若函數  $y = f(x) = \tan^{-1}\left(\frac{1 + \tan x}{1 - \tan x}\right)$ , 求  $\frac{dy}{dx}$ 。(8%)

九、求不定積分  $\int \frac{1}{1 + \sin x} dx$ 。(8%)

十、求將曲線  $y = x^2$  與  $y = 2 - x^2$  所圍之區域繞  $x$  軸旋轉所產生之立體體積。(8%)

十一、求  $\iint_R e^{x+2y} dx dy$  之值, 其中  $R$  是由  $x + 2y = 2, x + 2y = -2, x - 2y = 2, x - 2y = -2$  所圍成之區域。(8%)

十二、證明：擺線參數式  $x = a(t - \sin t), y = a(1 - \cos t)$  上任一點  $t = t_0 (t_0 \neq 2n\pi, n \in Z)$  處的切線方程式為  $y - 2a = \cot \frac{t_0}{2} (x - at_0)$ 。(10%)

# 國立高雄師範大學九十九學年度碩士班招生考試試題

系所別：科技管理研究所

(以鉛筆作答者不予計分)

科 目：經濟學 (第 1 頁，共 2 頁)

- 一、請說明聚集經濟 (agglomeration economy) 與群聚 (或集群) 經濟 (cluster economy) 的差異，並各舉一個台灣地區現實發展的個案簡析之。(20%)
- 二、請用簡要文字 (約 300 字) 分析台灣加入 ECFA (Economic Cooperation Framework Agreement) 的利弊得失？台灣又應如何趨利避害？(15%)
- 三、請解釋外部成本 (external cost)、重商主義 (mercantilism) 和生產力 (productivity) 三個名詞的含意。(15%)
- 四、選擇題 (每題 5%，共 20%)
  - (一) 若已知 2005 年與 2008 年 X 與 Y 的價格與消費量分別為  $P_{x, 2005}=5$ ,  $P_{y, 2005}=15$ ,  $Q_{x, 2005}=25$ ,  $Q_{y, 2005}=50$ ,  $P_{x, 2008}=8$ ,  $P_{y, 2008}=30$ ,  $Q_{x, 2008}=30$ ,  $Q_{y, 2008}=40$  請以 2005 年為基期計算 2008 年的消費者物價指數 CPI 為  
(A) 206 (B) 194 (C) 251 (D) 165
  - (二) 下列敘述何者錯誤：
    - a. 畢業季節失業率增加，可能是因為隱藏性失業增加
    - b. 需求拉動型通貨膨脹會造成總所得減少
    - c. GNP 的衡量，無法將品質的改善計入
    - d. 結構性失業是指高階人才低用，無法真正發揮所長(A) abd (B) abcd (C) ad (D) bd
  - (三) 下列敘述何者正確 (A) 當政府要訂定價格上限時，應該要訂在均衡價格之上才有意義。(B) 政府訂定價格下限將造成市場有超額需求。(C) 太陽能汽車雖然可能沒有市場交易發生，但其供給與需求是存在的，未來若需求或供給改變，即可能有實際交易發生。(D) 以上皆是
  - (四) 若一國的實質貨幣需求函數為  $M^d/P=A*Y/i$ ，其中，Y 為實質 GDP，i 為名目利率，P 為物價指數，A 為常數，若該國之實質 GDP 成長率平均為 6%，貨幣成長率平均為 12%，名目利率成長率固定為 6%，則該國物價上漲率為 (A) 10% (B) 8% (C) 12% (D) 條件不足無法判定。

(背面有題)

系所別：科技管理研究所

(以鉛筆作答者不予計分)

科 目：經濟學 (第 2 頁，共 2 頁)

五、簡答計算題

(一) 完全競爭市場裡，某廠商短期成本函數假設為  $TC = 100 + 30q - 5.5q^2 + \frac{1}{3}q^3$  (其中， $q$  為產量)，若市場均衡價格為 110，請問廠商之最大利潤是多少？最適產量是多少？(請四捨五入至整數)(15%)

(二) 請說明一國貨幣升值對於總體經濟與產業的影響。(15%)